REMARKS/ARGUMENTS

Claims 1, 3-8, 10, 11, 13, 23 and 25-28 are now pending in this application. Claims 1 and 23 are independent claims. Claims 1 and 23 have been amended. Claims 2, 9, 12, 14-22, 24 and 29-31 have been cancelled.

Claim Rejections – 35 USC § 112

Claims 1, 3-8, 10, 11, 13, 23 and 25-28 stand rejected under 35 U.S.C. § 112, first paragraph. Amendments have been made to the claims, thereby obviating the rejections under this section.

Claim Rejections – 35 USC § 103(a)

Claims 1, 3-8, 10, 13, 23 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Idleman et al., United States Patent Number: 5,274,645 (hereinafter: Idleman), in view of Weng, United States Patent Number: 5,265,104 (hereinafter: Weng), in further view of Krueger, United States Patent Number: 5,331,646 (hereinafter: Krueger). (Pending Office Action, Page 4). Claims 11 and 26-28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Idleman, Weng and Krueger, in view of Iwatani, United States Patent Number: 6,023,780 (hereinafter: Iwatani). (Pending Office Action, Page 9). Applicant respectfully traverses these rejections.

"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." (emphasis added) (MPEP § 2143). "If an independent claim is non-obvious under 35 U.S.C. 103, then any claim depending therefrom is non-obvious." (emphasis added) *In re Fine*, 837 F. 2d 1071, 5USPQ2d 1596 (Fed. Cir. 1988). Applicant respectfully submits that independent Claims 1 and 23 include elements that are not disclosed, taught or suggested by any of the references cited by the Patent Office, either alone or in combination.

Independent Claims 1 and 23 of the present invention each generally recite a system/method wherein:

> "wherein the error detection and correction code metadata is stored in a disk drive separate from the data read from the data disk drive."

The Examiner correctly acknowledges that Idleman does not teach the above-referenced elements. (Pending Office Action, Page 6). However, Examiner cites Weng as teaching the above-referenced elements and cites further that it would have been obvious to one of ordinary skill in the art at the time of the present invention to modify Idleman in view of Weng to arrive at the above-referenced claimed elements of the present invention. (Pending Office Action, Pages 6 and 7). Specifically, Examiner equates the distance D Reed-Solomon code of Weng to the error detection and correction code metadata of the present invention. (Pending Office Action, Page 6). Further, Examiner cites that the distance D Reed-Solomon code of Weng is stored in a disk drive separate from the data read from the data disk drive. (Pending Office Action, Page 6). However, the cited portion of Weng set forth by the Examiner is silent as to where the D Reed-Solomon code is stored.

In the present invention, cyclic redundancy check (CRC) metadata is stored in disk drive separate from the data read from the data disk drive (ex-its associated data block), thereby allowing the system of the present invention to detect drive anomaly errors at a byte level. (Present Application, Page 9, Lines 8-10). Further, the CRC metadata of the present invention is retrieved from its separate disk drive so that it may be compared against generated CRC. (Present Application, Page 5, Lines 15-16; Abstract; and FIG. 1). In contrast, the distance D Reed-Solomon code of Weng, which, as stated above, the Examiner cites as being equivalent to the CRC metadata of the present invention, merely generates redundancy symbols. (Weng, Abstract). Nowhere in Weng is it disclosed that said distance D Reed-Solomon code is suitable for comparison with generated CRC for detection of drive anomaly errors. (Weng, Abstract). Therefore, the D Reed-Solomon code of Weng cannot be construed as being equivalent to the CRC metadata of the presently claimed invention. Because the D Reed-Solomon code of Weng cannot be construed as being equivalent to the CRC metadata of the presently

claimed invention, Weng cannot be construed as teaching the above-referenced elements, nor can Weng be construed as curing the deficiencies of Idleman addressed above.

Further, Independent Claims 1 and 23 of the present invention each generally recite a system/method wherein:

> "wherein the cyclic redundancy check is generated and managed at a sector level."

In the present invention, cyclic redundancy check (CRC) is generated and managed at a sector level. (Present Application, Page 6, Paragraph 0021 and Page 8, Paragraph 0032). Thus, the present invention promotes increased flexibility in that metadata management is not dictated by cache block size of a storage controller. (Present Application, Page 5, Paragraph 0015 and Page 6, Paragraph 0021). Also, with the present invention, metadata management may be more controller-independent, such that if a storage controller's cache block size is changed, there is no need to reformat data on all of the disk drives. (Present Application, Page 6, Paragraphs 0019 and 0021).

Based on the rationale above, Applicant contends that none of the references cited by the Patent Office against the present invention, either alone or in combination, teach, disclose or suggest the above-referenced elements as claimed in Claims 1 and 23 of the present application and therefore, the above-cited references do not preclude patentability of the present invention under 35 U.S.C. § 103(a). Applicant further contends that given the advantages provided by the present invention, it would not have been obvious to one of ordinary skill in the art at the time of the present invention to combine or modify any of the above-cited references to arrive at the present invention as claimed. As a result, a *prima facie* case of obviousness has not been established for independent Claims 1 and 23. Thus, independent Claims 1 and 23 are believed allowable. Further, Claims 3-8, 10, 11 and 13 (which depend from Claim 1) and Claims 25-28 (which depend from Claim 23) are therefore allowable.

CONCLUSION

In light of the forgoing, reconsideration and allowance of the pending claims is earnestly solicited.

Respectfully submitted on behalf of
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